

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 1 of 21

1/21

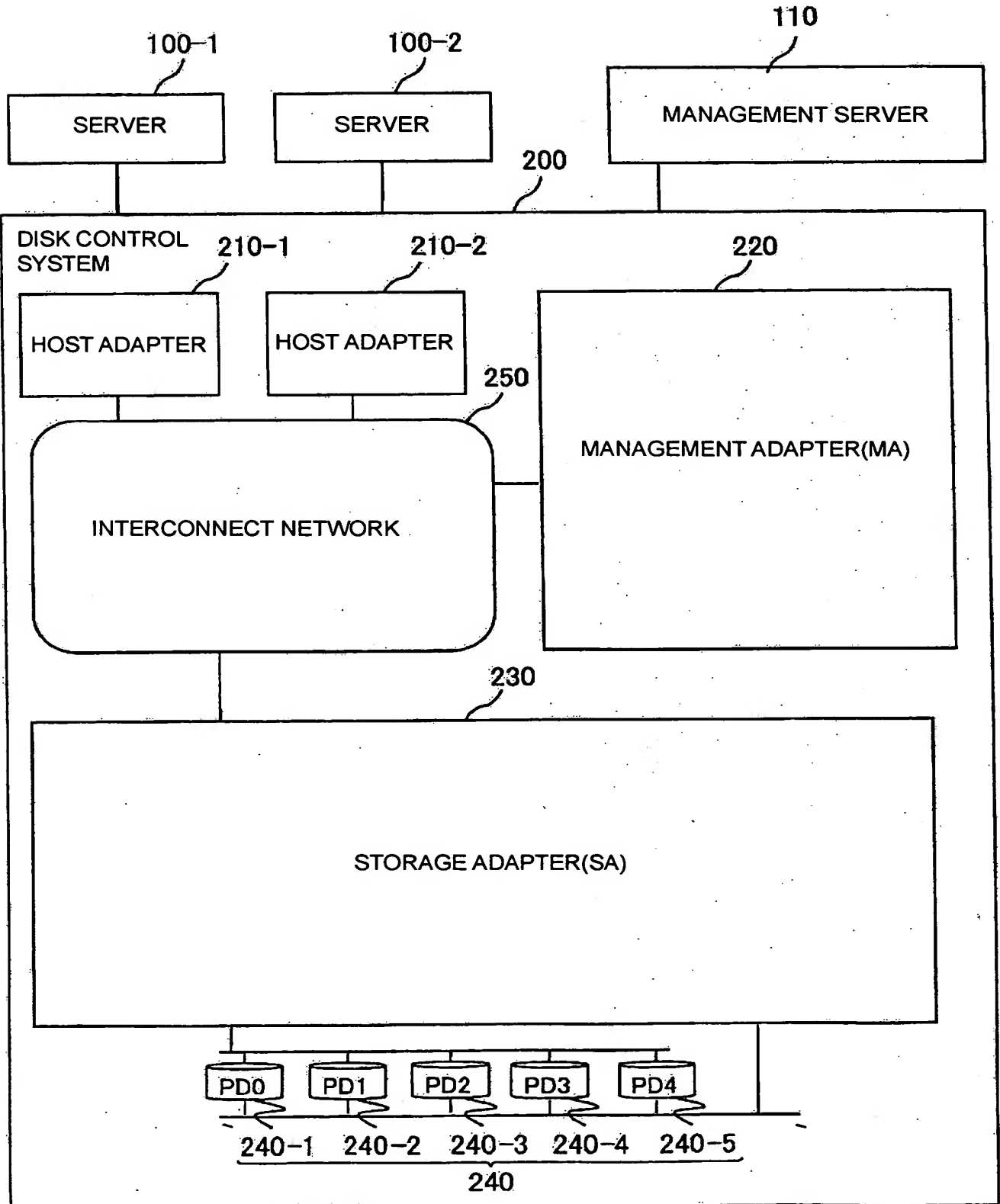


FIG. 1

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 2 of 21

2/21

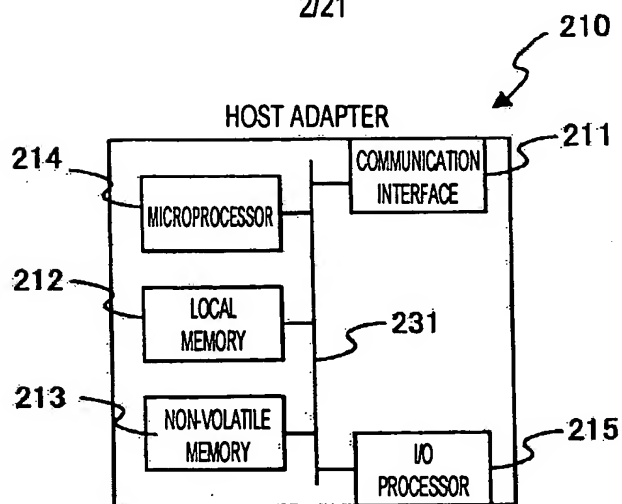


FIG. 2

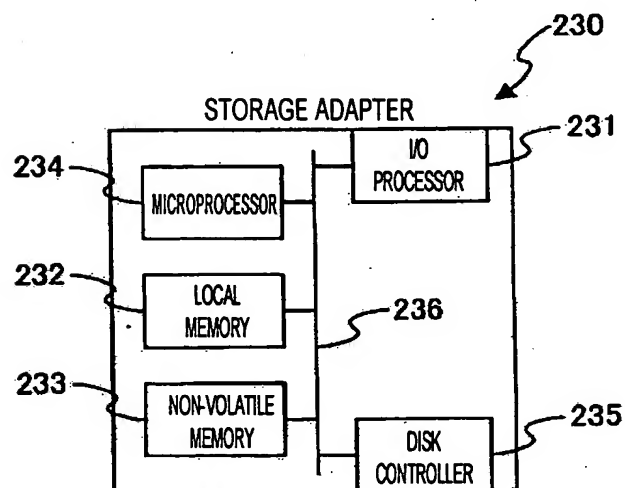


FIG. 3

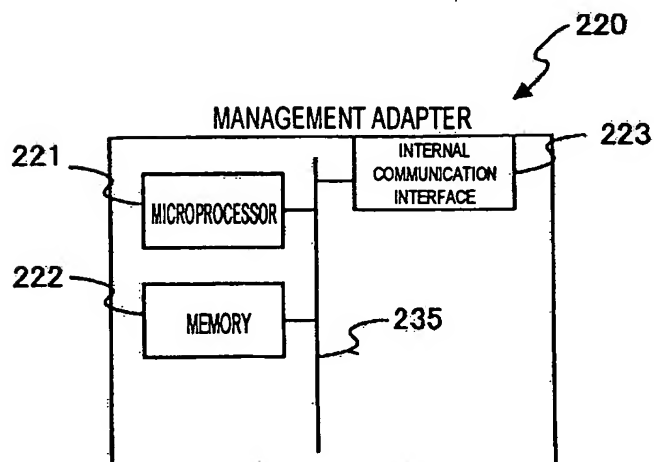


FIG. 4

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 3 of 21

3/21

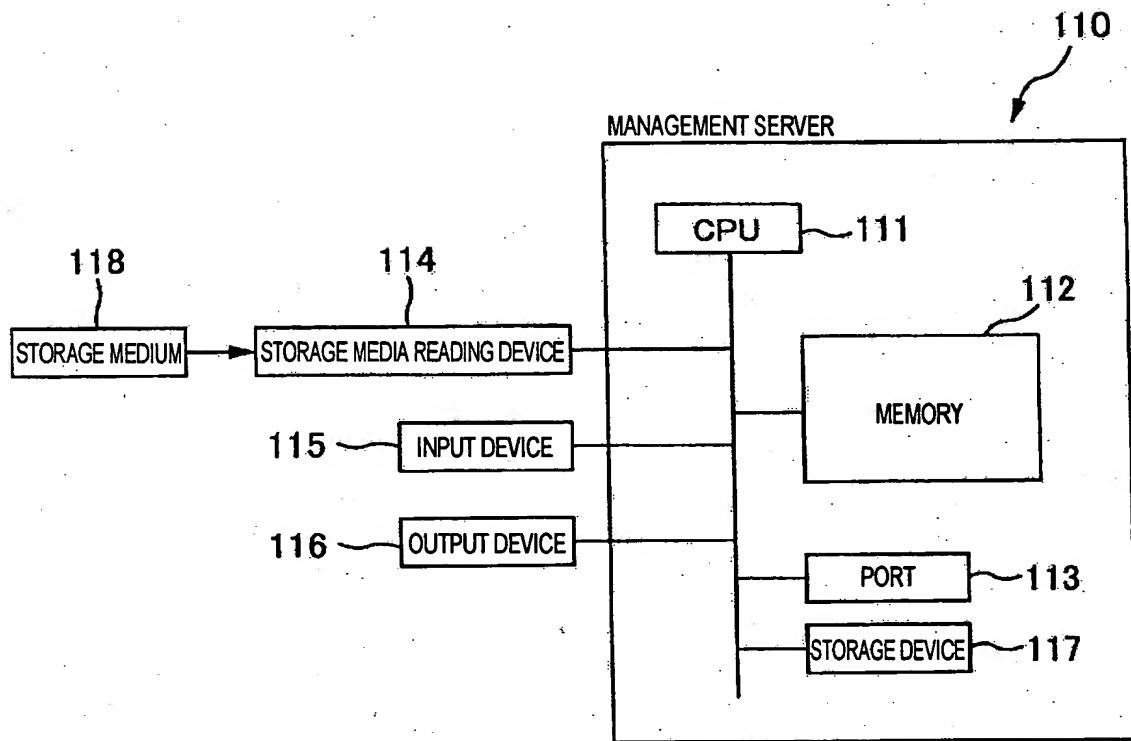


FIG. 5

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 4 of 21

4/21

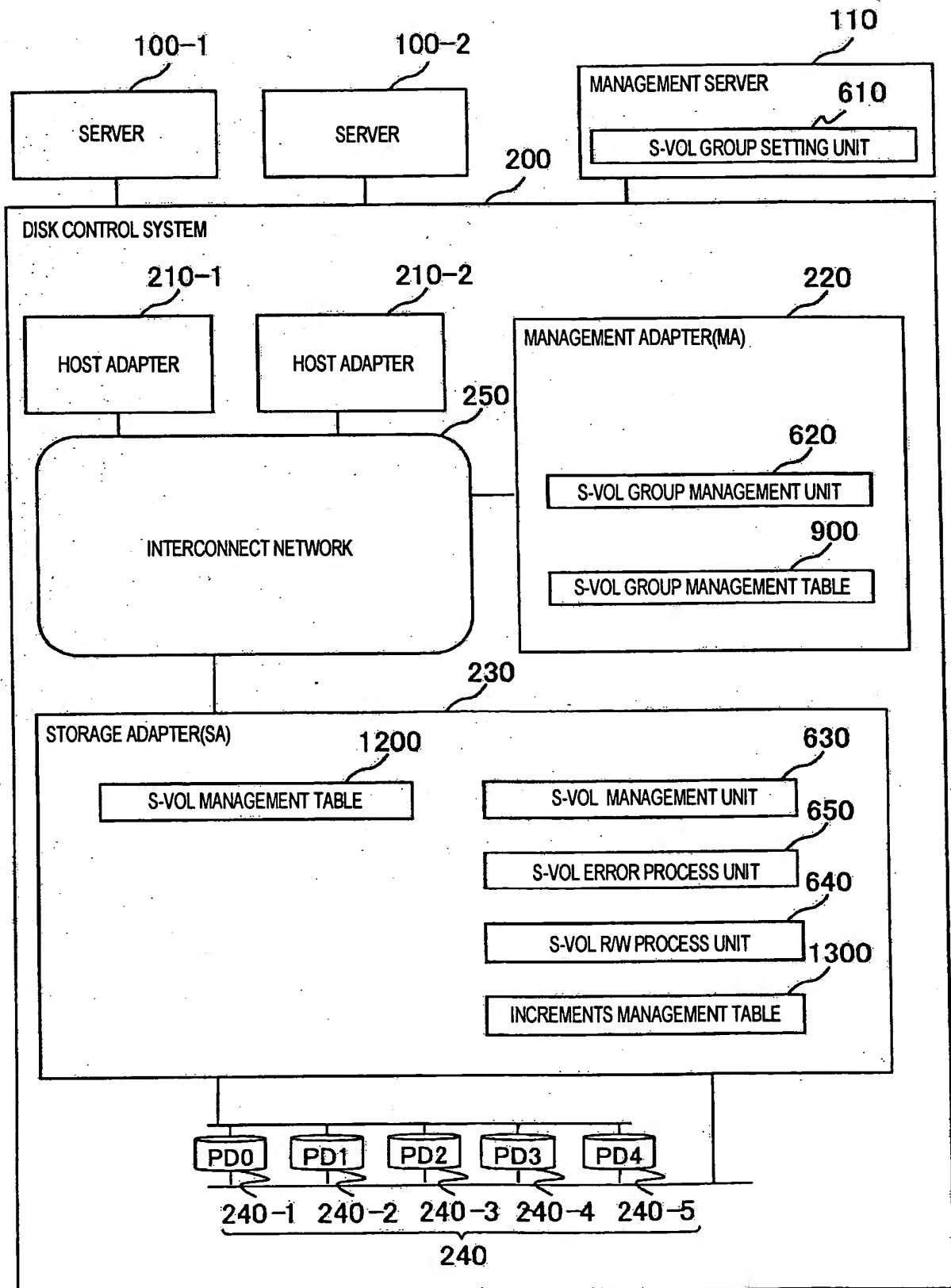


FIG. 6

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 5 of 21

5/21

700

COPY SOURCE-DESTINATION TABLE

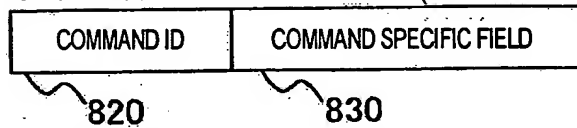
COPY SOURCE LU (LUN)	COPY DESTINATION LU (LUN)
1	10
2	11
3	12
4	13
5	14

FIG. 7

Applicant: Aki TOMITA
 Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...
 Atty Docket No. 16869K-109000US
 Sheet 6 of 21

6/21

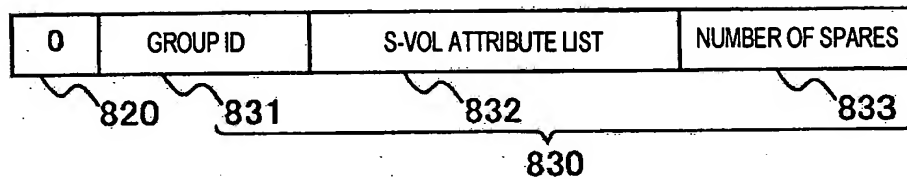
S-VOL GROUP OPERATION COMMAND (MANAGEMENT SERVER/MA)



- 0: S-VOL GROUP INITIALIZATION
- 1: RESTORE
- 3: QUERY (S-VOL ATTRIBUTE/SPARE S-VOL ATTRIBUTE)

FIG. 8A

S-VOL GROUP INITIALIZATION COMMAND 810-1



S-VOL ATTRIBUTE LIST 832

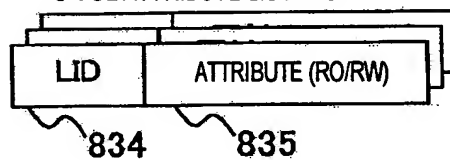


FIG. 8B

RESTORE COMMAND 810-2

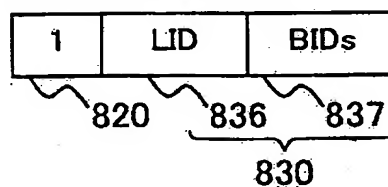


FIG. 8C

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 7 of 21

7/21

S-VOL GROUP MANAGEMENT TABLE

900

901 GROUP ID (GrpID)	902 LOGICAL VOLUME ID (LID)	903 LOGICAL REGION ATTRIBUTE (Attr)	904 PHYSICAL VOLUME ID (PID)	905 RECOVERY ID (RLID)
G0	LV0	RO	PD0	
	LV1	RO	PD1	
	LV2	RW	PD2	DLV2
	S0	RO	PD3	
	DLV2	RW	PD4	

FIG. 9

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 8 of 21

8/21

S-VOL GROUP SETTING UNIT 610

S-VOL GROUP MANAGEMENT UNIT 620

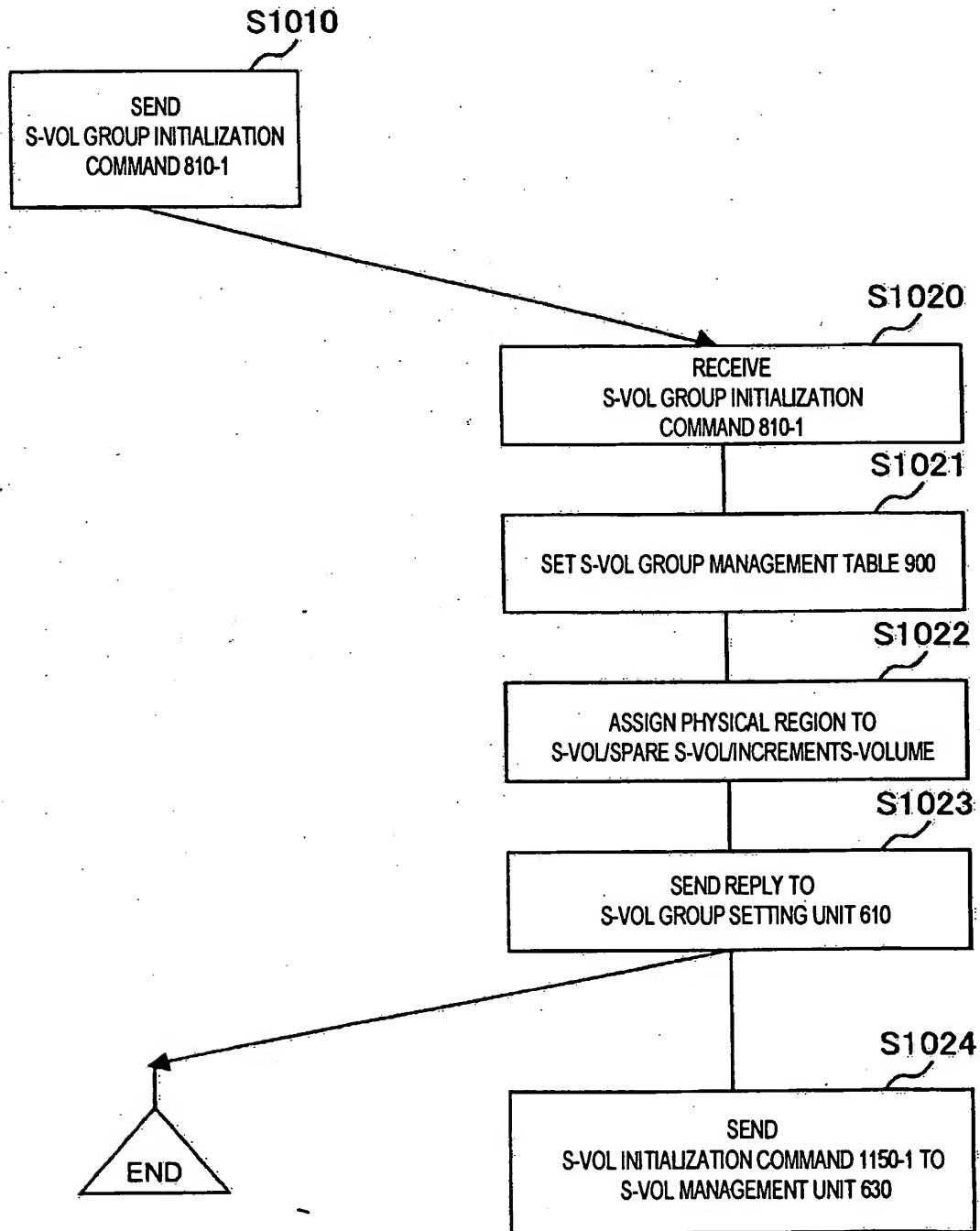


FIG. 10

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 9 of 21

9/21

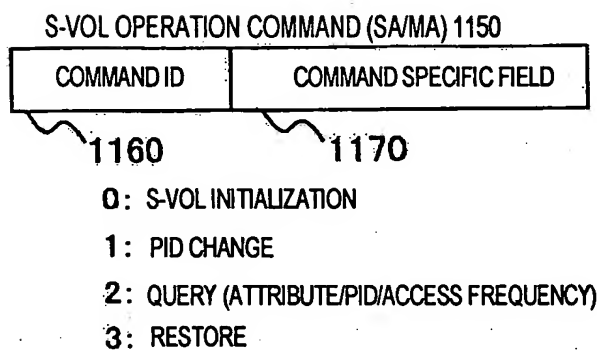


FIG. 11A

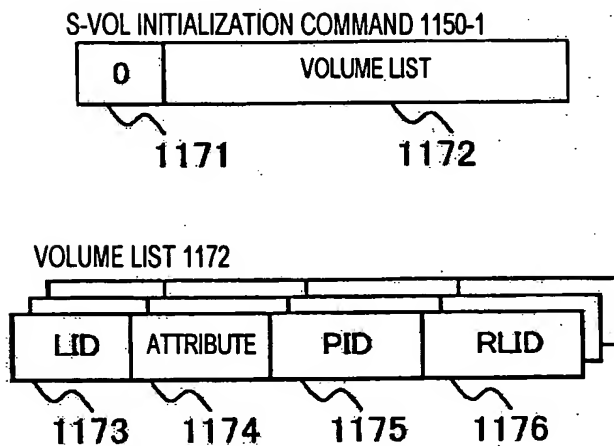


FIG. 11B

S-VOL RESTORE COMMAND 1150-2

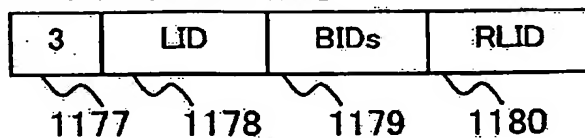


FIG. 11C

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 10 of 21

10/21

S-VOL MANAGEMENT TABLE

1201 LOGICAL VOLUME ID (LID)	1202 LOGICAL VOLUME ATTRIBUTE (Attr)	1203 PHYSICAL VOLUME ID (PID)	1204 RECOVERY LID (RLID)	1205 ACCESS FREQUENCY (Freq)
LV0	RO	PD0		
LV1	RO	PD1		
LV2	RW	PD2	DLV2	
S0	—	PD3		
DLV2	RW	PD4		

FIG. 12

INCREMENTS MANAGEMENT TABLE

1351 INCREMENTS LID (DLID)	1352 BLOCK ID (BID)
DLV2	

FIG. 13

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Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

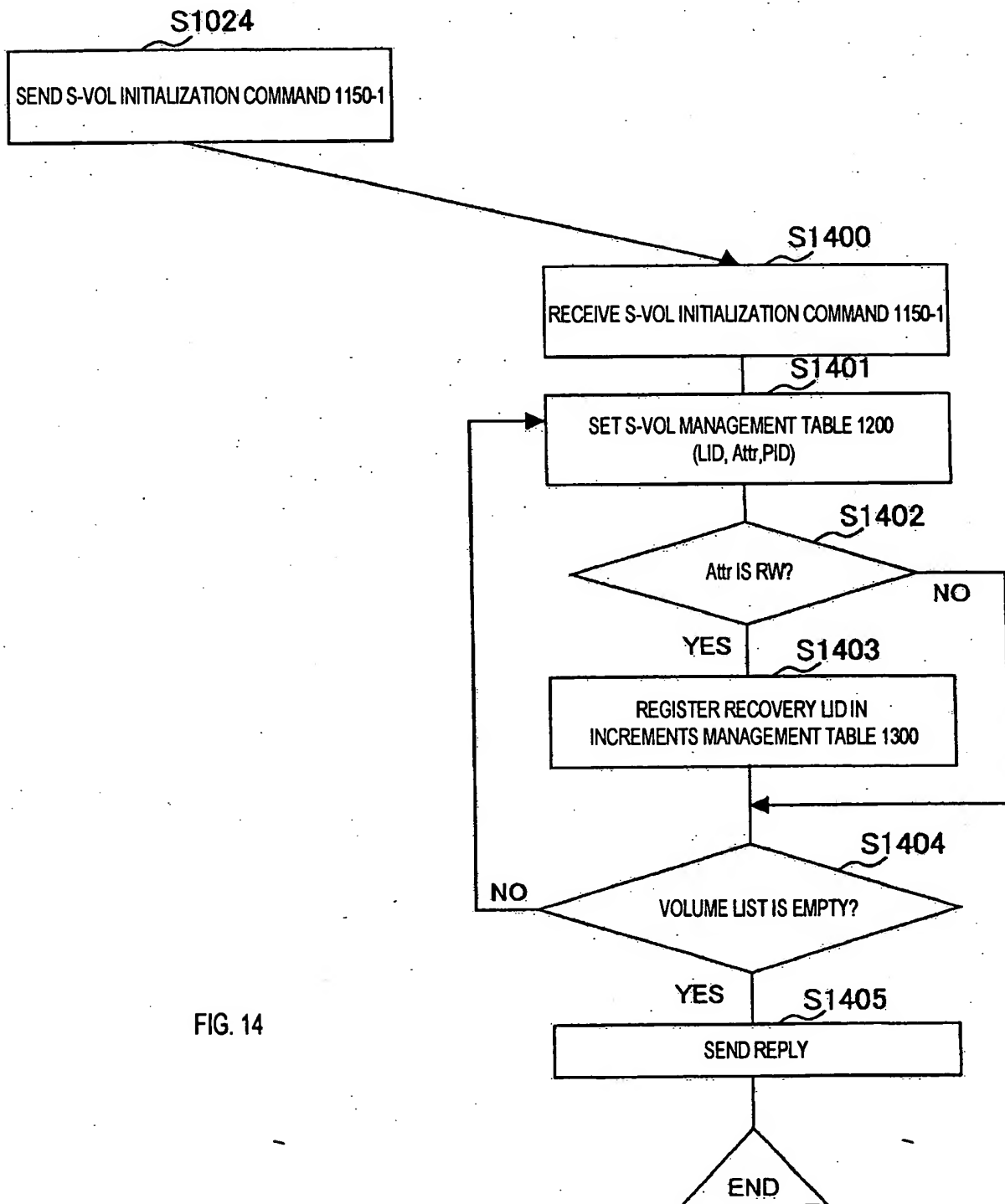
Atty Docket No. 16869K-109000US

Sheet 11 of 21

11/21

S-VOL GROUP MANAGEMENT UNIT 620

S-VOL MANAGEMENT UNIT 630



Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 12 of 21

12/21

S-VOL R/W PROCESS UNIT 640 (READ PROCESS)

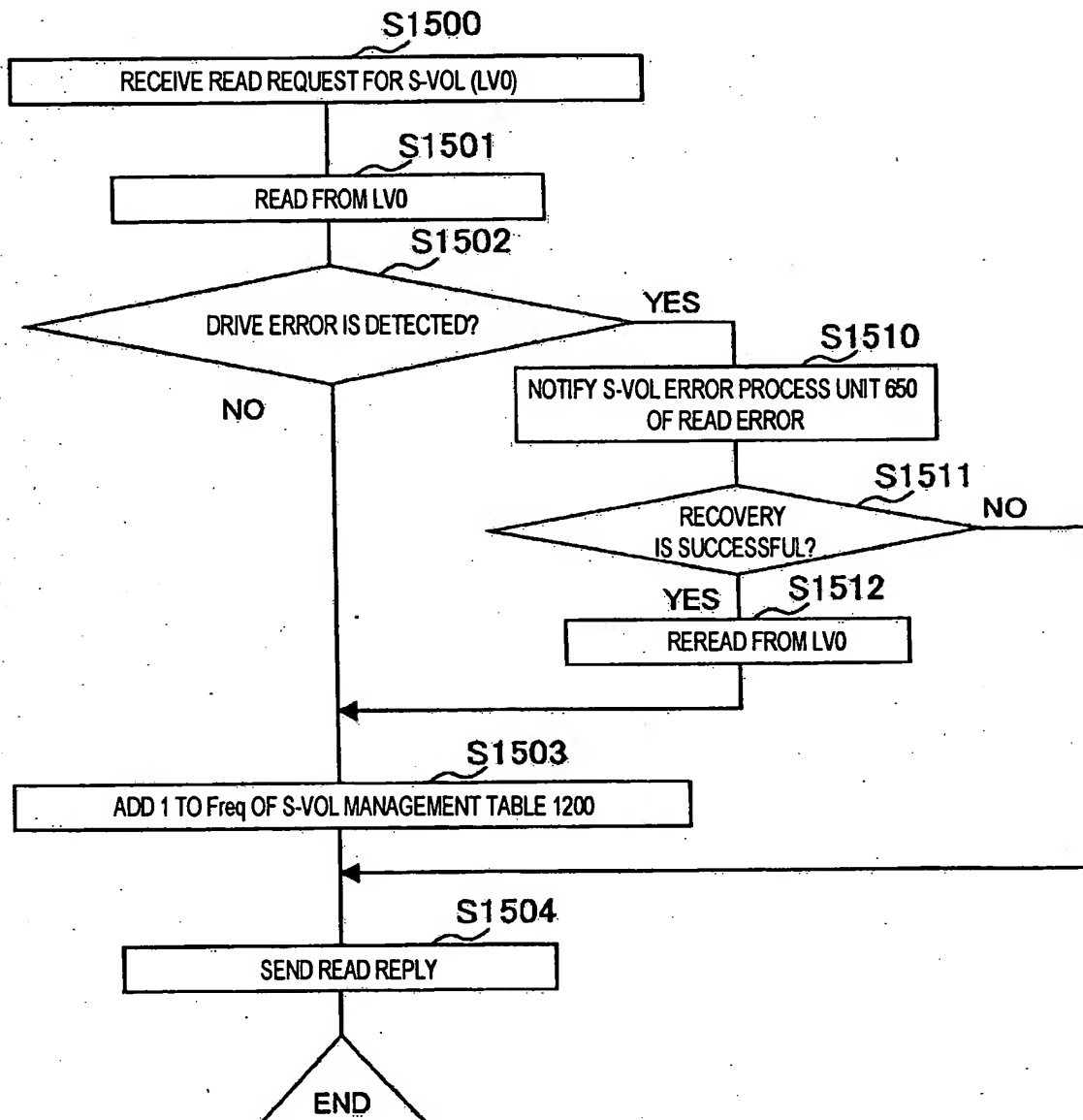


FIG. 15

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 13 of 21

13/21

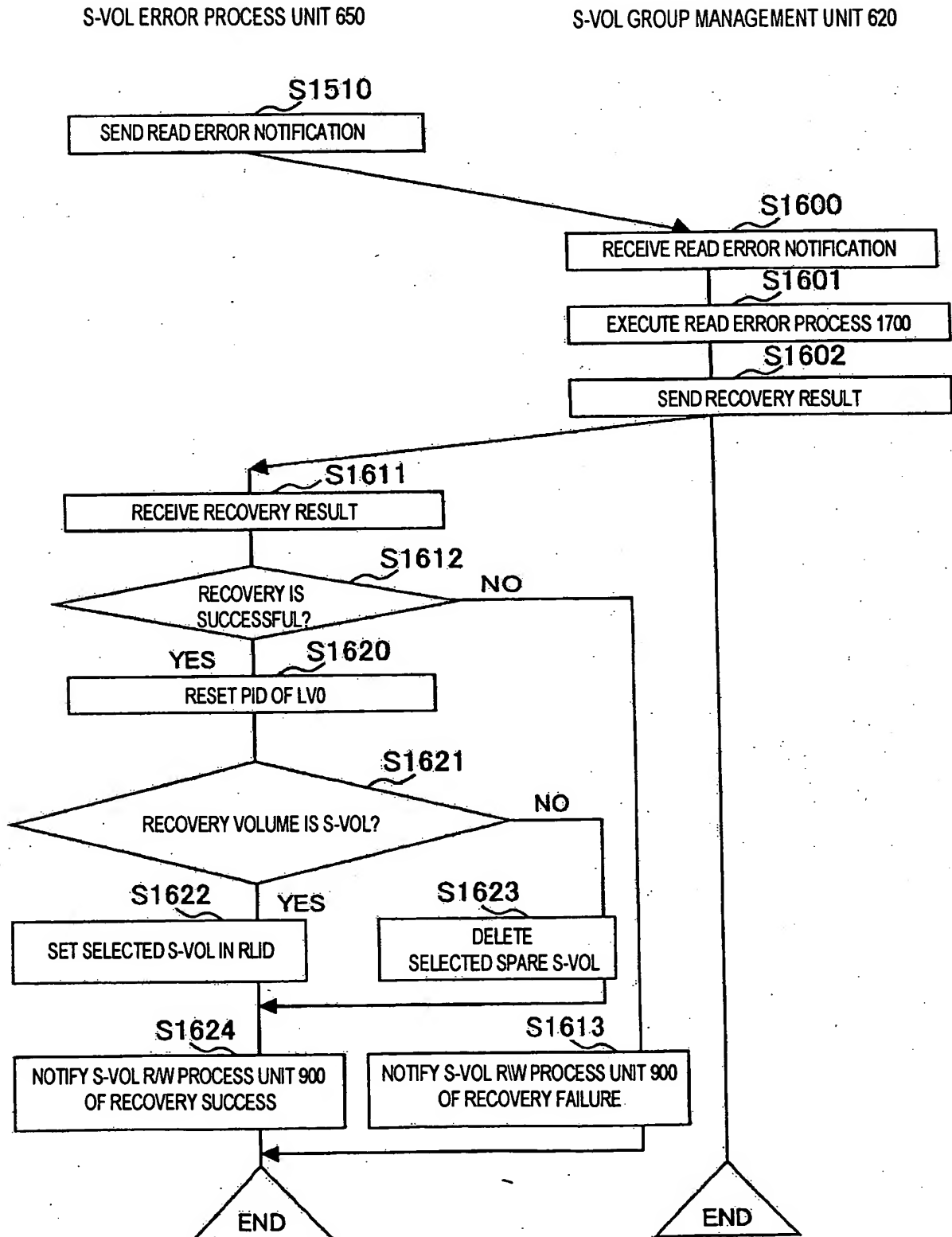


FIG. 16

Applicant: Aki TOMITA

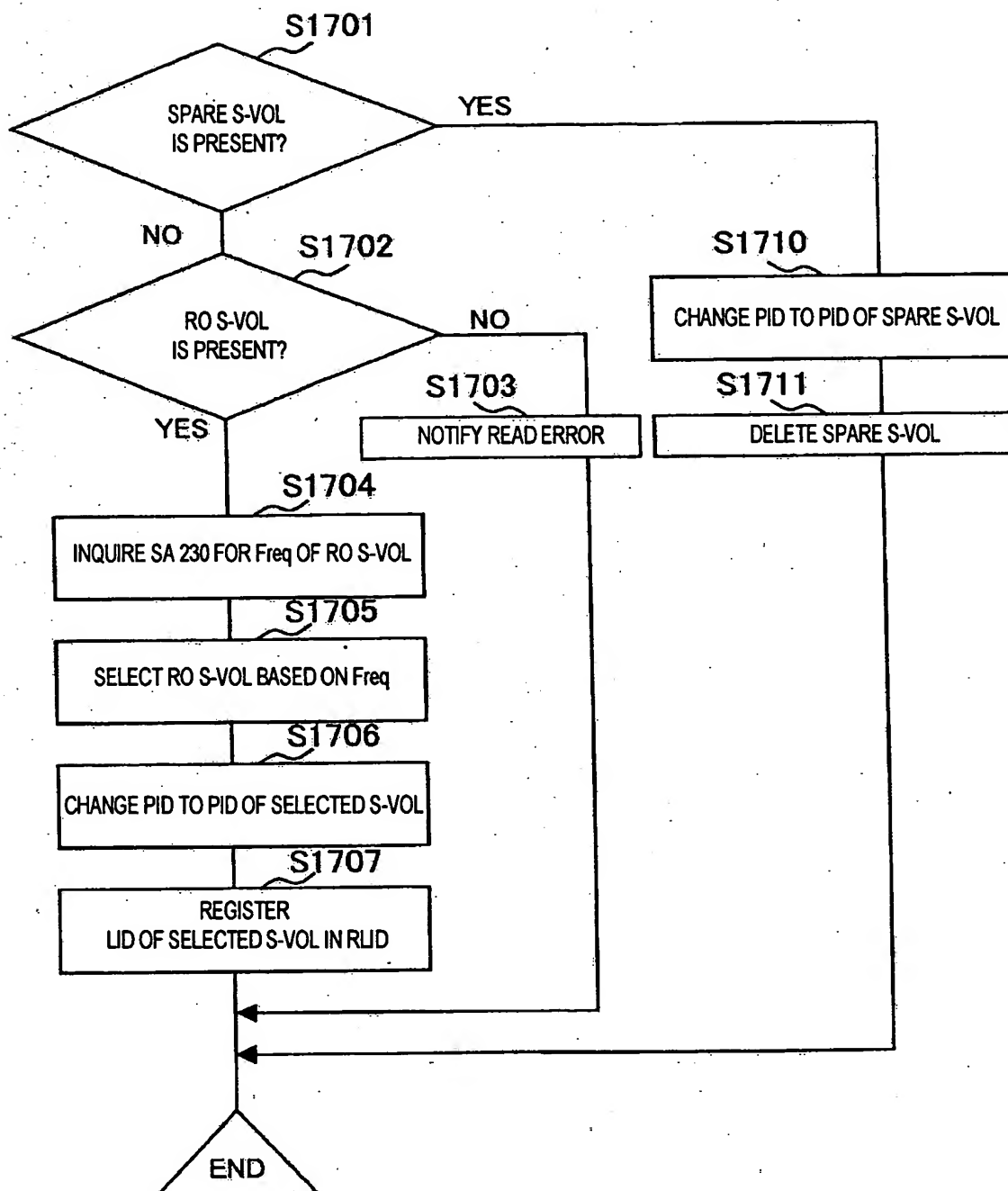
Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 14 of 21

14/21

S-VOL READ ERROR PROCESS



-FIG. 17

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 15 of 21

15/21

S-VOL READ/WRITE PROCESS UNIT (WRITE PROCESS)

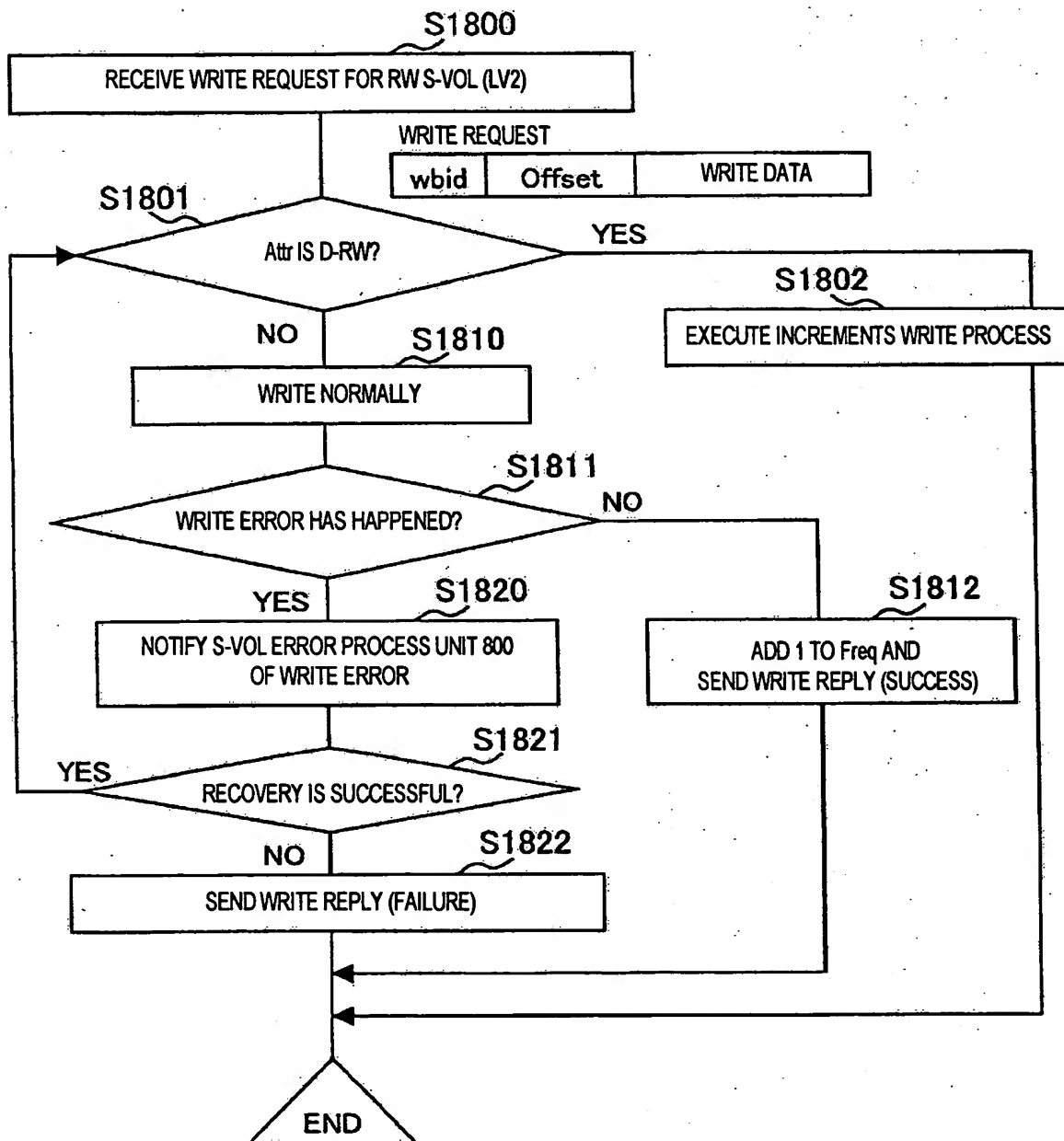


FIG. 18

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 16 of 21

16/21

S-VOL READ/WRITE PROCESS UNIT (INCREMENTS WRITE PROCESS)

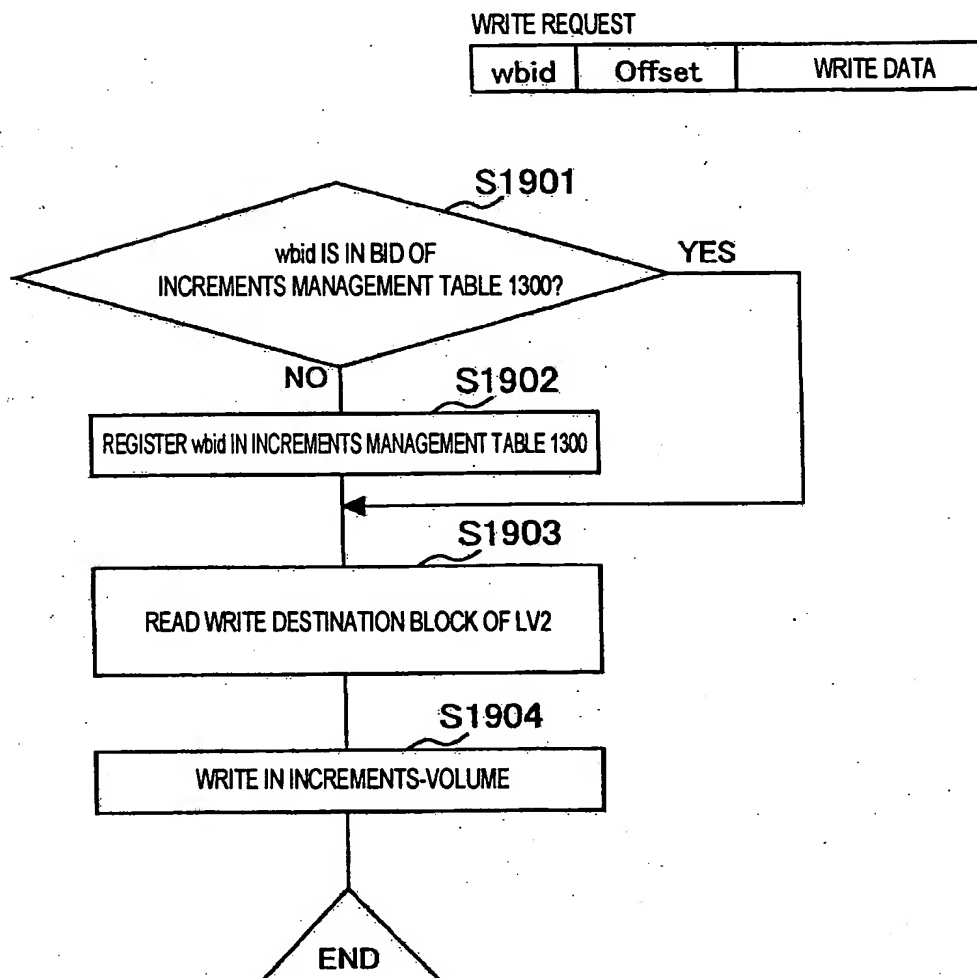


FIG. 19

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 17 of 21

17/21

S-VOL ERROR PROCESS UNIT 650

S-VOL GROUP MANAGEMENT UNIT 620

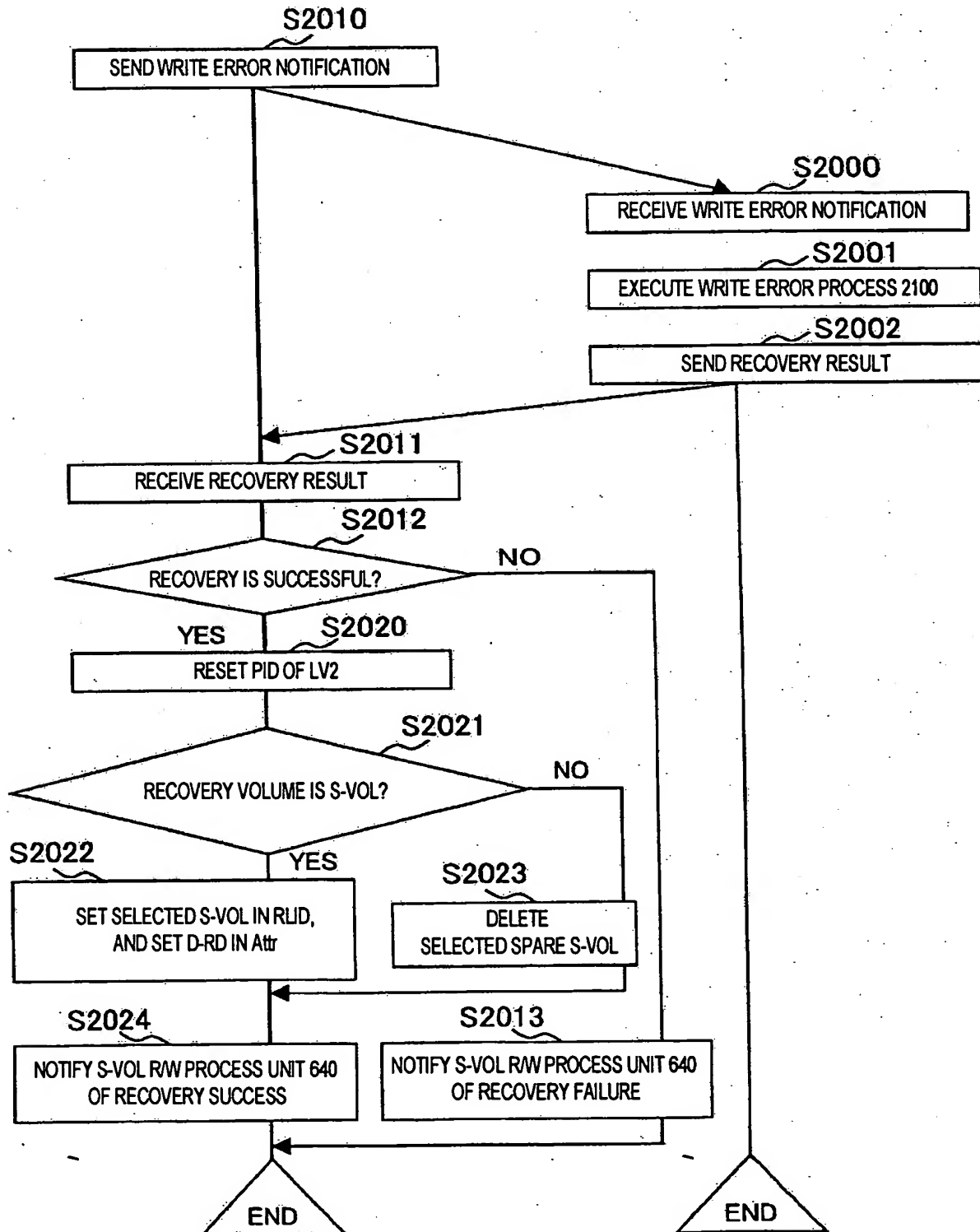


FIG. 20

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 18 of 21

18/21

S-VOL WRITE ERROR PROCESS

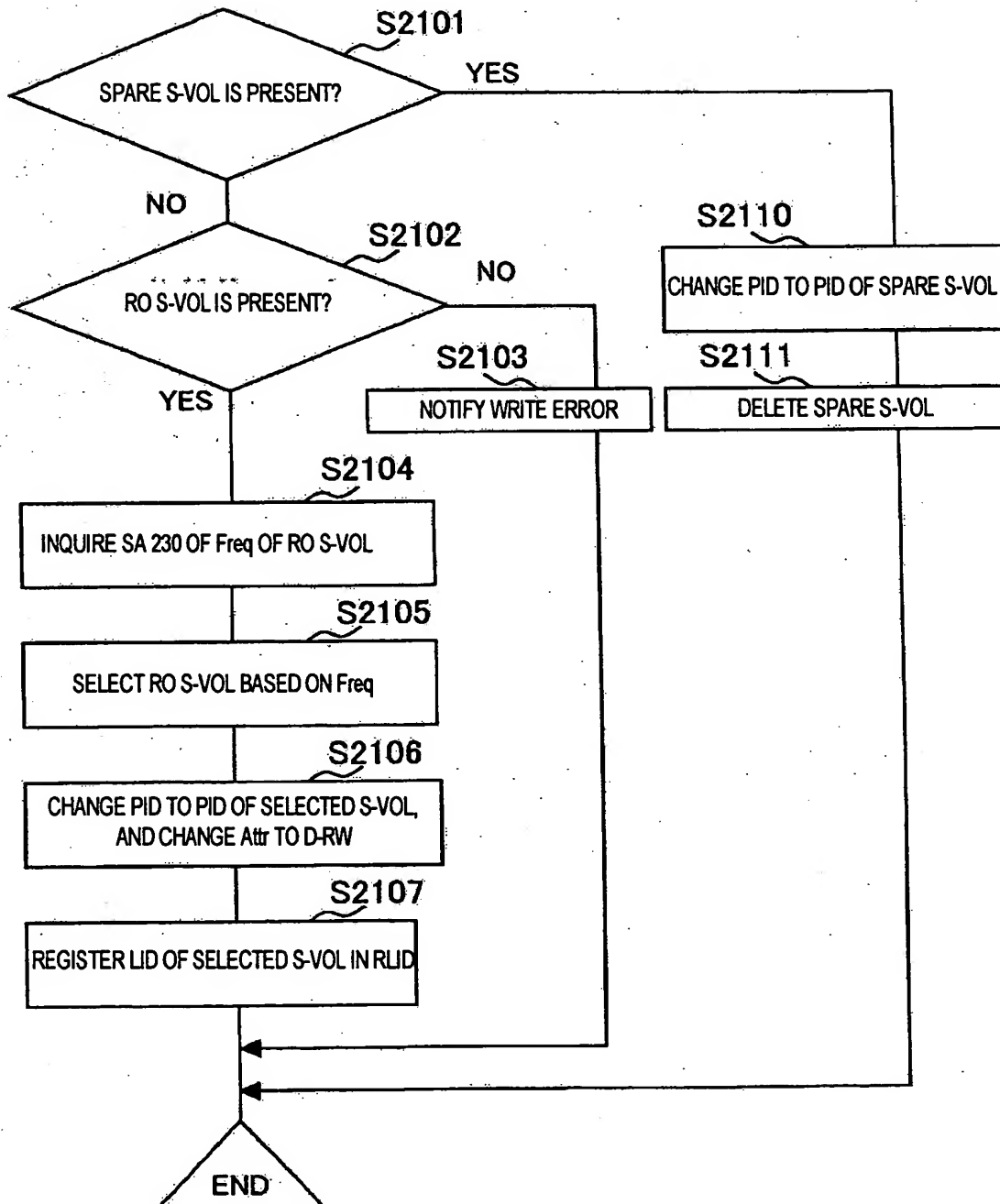


FIG. 21

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 19 of 21

19/21

S-VOL GROUP SETTING UNIT 610

S-VOL GROUP MANAGEMENT UNIT 620

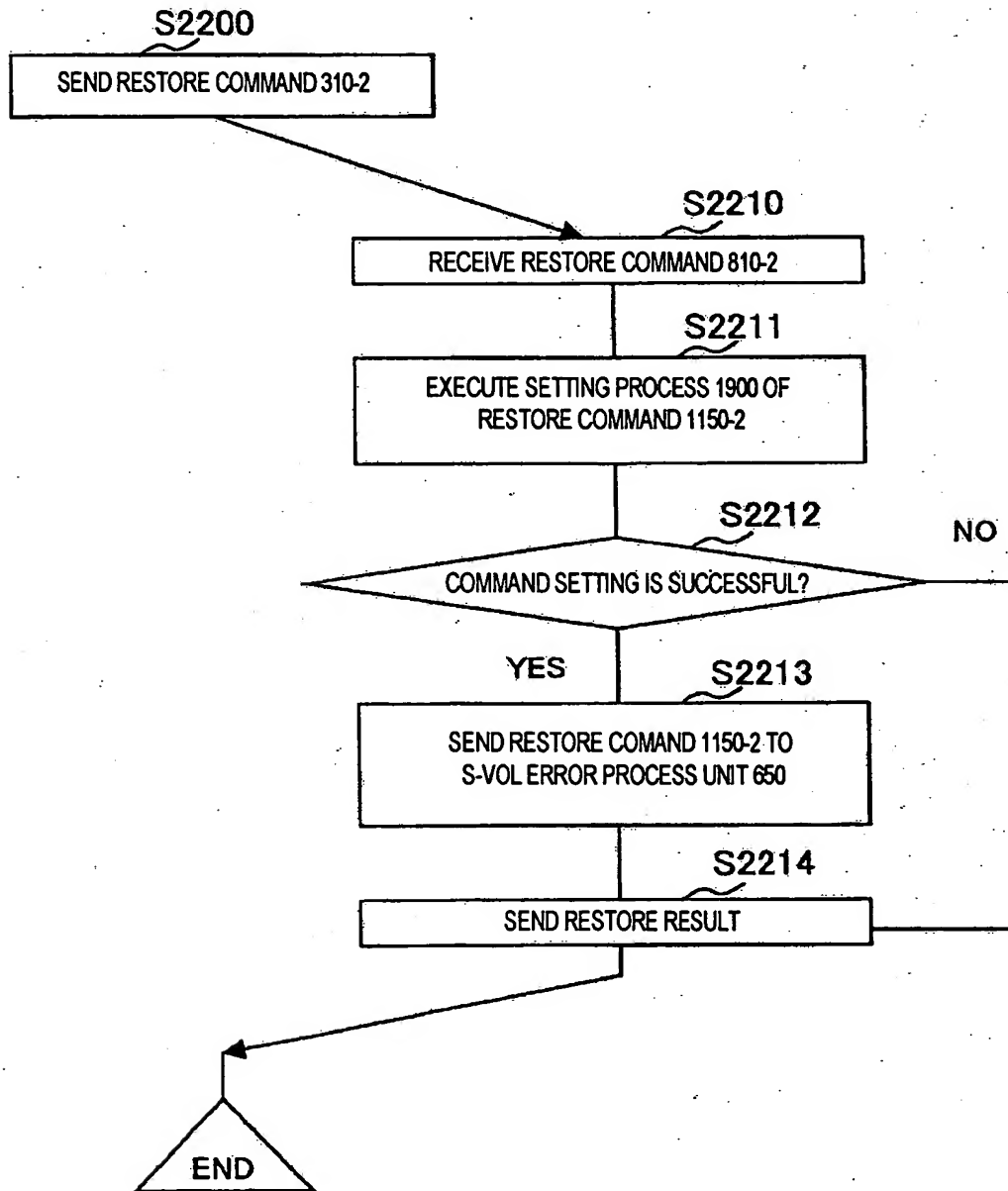


FIG. 22

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 20 of 21

20/21

RESTORE COMMAND SETTING PROCESS

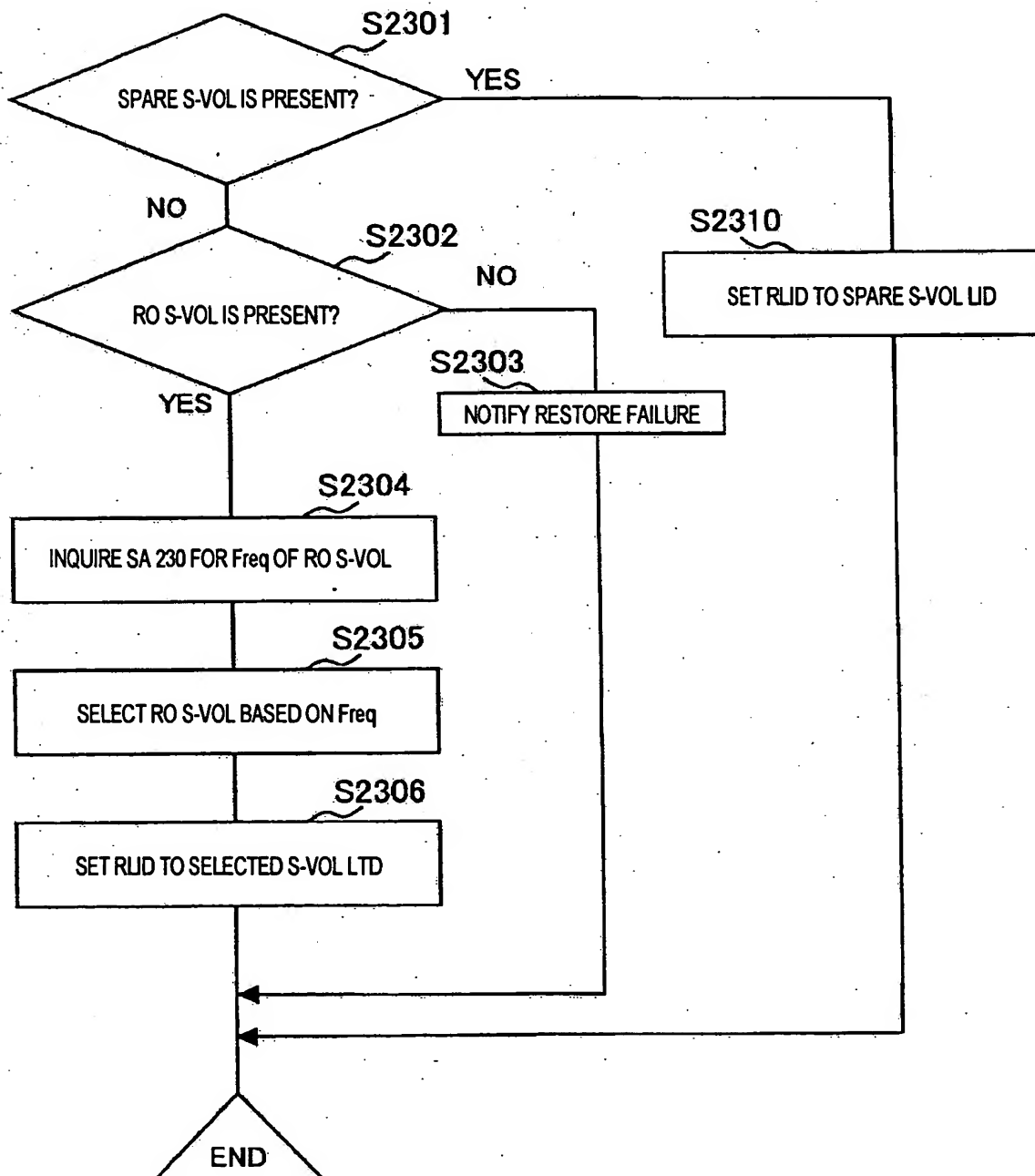


FIG. 23

Applicant: Aki TOMITA

Title: DATA I/O SYSTEM USING A PLURALITY OF MIRROR...

Atty Docket No. 16869K-109000US

Sheet 21 of 21

21/21

S-VOL ERROR PROCESS UNIT

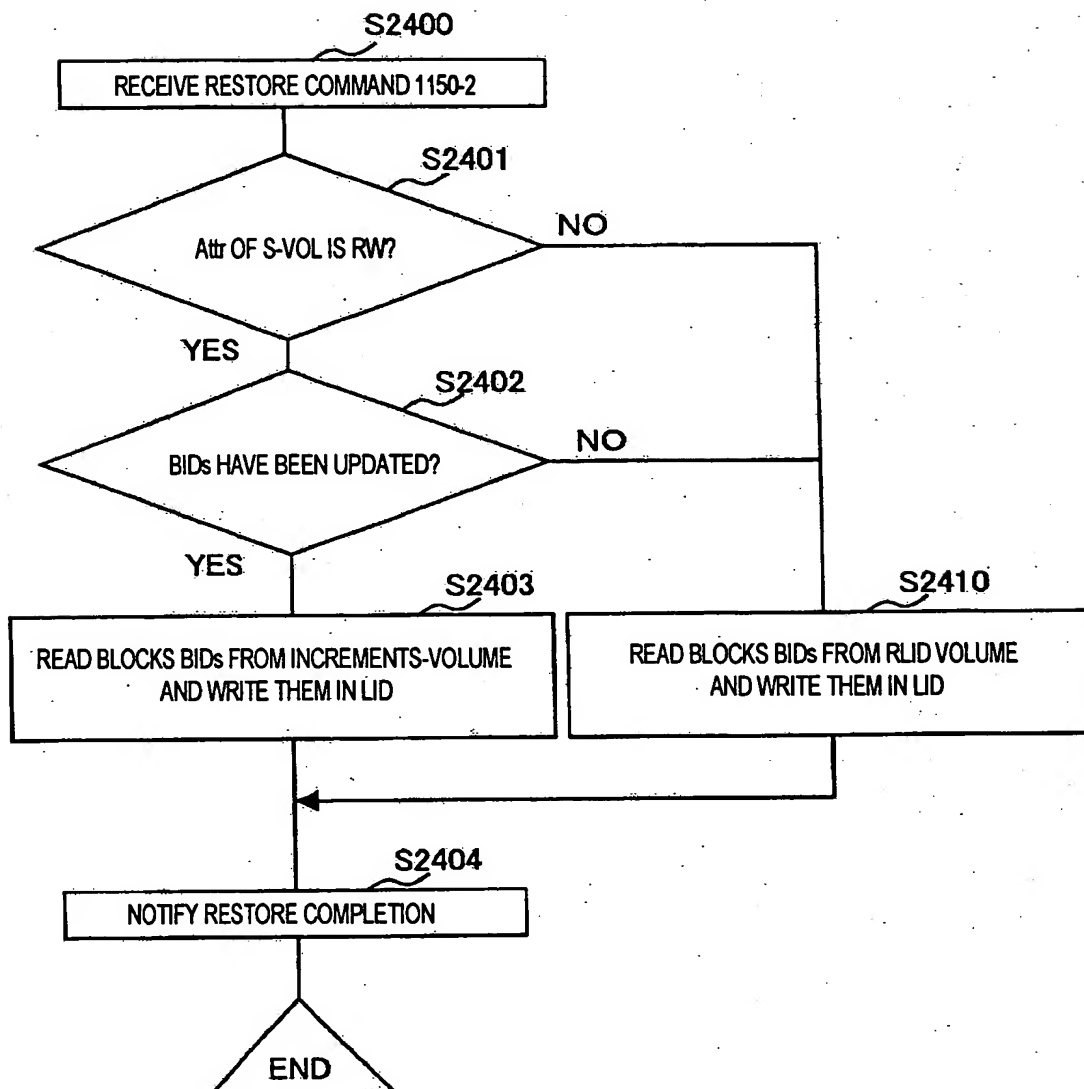


FIG. 24